

**REMARKS/ARGUMENTS**

Reconsideration of the application is requested.

Claims 1-16 remain in the application. Claims 1 and 10-11 have been amended.

In item 1 on pages 2-3 of the above-mentioned Office action, claims 10-11 and 16 have been rejected as being unpatentable over Forbes et al. (US Pat. No. 6,498,065 B1; hereinafter "Forbes I") in view of Fitch et al. (US Pat. No. 5,554,870), further in view of Burns, Jr. et al. (US Pat. No. 6,077,745) and further in view of Schafer et al. (German Pat. No. DE 196 32 833 C1) under 35 U.S.C. § 103(a).

In item 2 on page 3 of the above-mentioned Office action, claims 12 and 13 have been rejected as being unpatentable over Forbes I in view of Fitch et al., further in view of Burns, Jr. et al., further in view of Schafer et al. and further in view of Forbes et al. (US Pat. No. 6,134,175; hereinafter "Forbes II") under 35 U.S.C. § 103(a).

In item 3 on page 4 of the above-mentioned Office action, claim 14 has been rejected as being unpatentable over Forbes I in view of Fitch et al., further in view of Burns, Jr. et al.,

further in view of Schafer et al. and further in view of Bertin et al. (US Pat. No. 6,060,746) under 35 U.S.C. § 103(a).

In item 4 on pages 4-5 of the above-mentioned Office action, claim 15 has been rejected as being unpatentable over Forbes I in view of Fitch et al., further in view of Burns, Jr. et al., further in view of Schafer et al. and further in view of Biegelsen et al. (US Pat. No. 5,607,876) under 35 U.S.C. § 103(a).

As will be explained below, it is believed that the claims were patentable over the cited art in their original form and the claims have, therefore, not been amended to overcome the references. However, the language of claim 10 has been slightly modified in an effort to even more clearly define the invention of the instant application.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 10 calls for, inter alia:

vertical pillar structures disposed on said substrate,  
said vertical pillar structures having respective base  
sides, circumferential wall regions, and capping sides,  
said vertical pillar structures being statistically  
distributed over said substrate;

said third electrical contact commonly electrically connected to said vertical pillar structures at said capping sides.

The main difference between the invention of the instant application and the cited references is that the invention of the instant application relates to a single transistor with a plurality of pillars, whereas the cited references relate to a transistor circuit with multiple vertical transistors. In other words, the prior art references relate to a multiple transistor circuit in which individual transistors are formed as pillars, not a "multi-pillar transistor".

The Examiner has admitted that the reference Forbes I fails to disclose the required capping layer, insulators and the pillar in the required manner. However, the Examiner has stated that Fitch et al. disclose the required capping layer. Contrary to the Examiner's finding, Fitch et al. fail to teach the use of a common electrical contact at the capping sides of the vertical transistors 71. Fig. 10 only shows one vertical transistor 71 (see column 10, line 28). Fig. 11 shows two vertical transistors 71, but, however, fails to show interconnected capping contacts 54. The same applies to the two vertical transistors shown in Fig. 12. It is noted that the structure 94 in Figs. 13-15 does not represent electrical

capping contacts, but merely illustrates the position of the vertical transistors (see column 12, lines 15-36).

Further, it is noted that the Examiner completely ignored the feature "said vertical pillar structures being statistically distributed over said substrate" of claim 10 in the previous Office action. Although the newly cited document Schafer et al. discloses a method for manufacturing a cold cathode emitter using a statistical mask, it has nothing to do with a vertical transistor having vertical pillar structures statistically distributed over the substrate.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claim 10. Claim 10 is, therefore, believed to be patentable over the art and since all of the dependent claims are dependent on claim 10, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 10-16 are solicited. Rejoinder of method claims 1-9 is requested upon allowance of product claims 10-16. MPEP 821.04.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate a telephone call so that, if possible, patentable language can be worked out. In the alternative, the entry of the amendment is requested as it is believed to place the application in better condition for appeal, without requiring extension of the field of search. **It is noted that the amendment is pure language clarification without adding any new features.**

If an extension of time for this paper is required, petition for extension is herewith made. Please charge any fees which might be due with respect to 37 CFR Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted  
  
For Applicants  
YC

**LAURENCE A. GREENBERG**  
**REG. NO. 29,308**

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Lerner and Greenberg, P.A.  
Post Office Box 2480  
Hollywood, FL 33022-2480  
Tel: (954) 925-1100  
Fax: (954) 925-1101